

REMARKS

Claims 1 and 4-7 are now pending in the application. Claims 3 and 8-11 are canceled. Claims 1, 6 and 7 are amended. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112 FIRST PARAGRAPH

Claims 1 and 4 through 11

Claims 1 and 4 through 11 stand rejected under 35 U.S.C. § 112, first paragraph as stated by the Examiner "because the specification, while being enabling for an anisotropic conductive adhesive agent comprising an insulating adhesive and electrically conductive particles, does not reasonably provide enablement for an isotropic conductive agent comprising any adhesive (for example, a conductive adhesive) and electrically conductive particles." The Examiner also stated "Page 4, paragraph 12, specifically states that the connecting structure according to the invention is a connecting structure with an insulating adhesive agent, and a plurality of conductive particles unevenly distributed therein. Accordingly, the anisotropic adhesive agent must contain an insulation adhesive agent and is critical to the invention." This rejection is respectfully traversed.

It is initially noted Claims 8-11 are herein canceled, rendering the 35 U.S.C. § 112, first paragraph rejection of Claims 8-11 moot.

It is also initially noted Claim 1 has been amended herein to recite in part:

“a second adhesive layer wherein the first adhesive layer and the second adhesive layer are formed from an insulating adhesive agent”.

Support for this amendment is found in paragraphs [0080] and [0081] of the specification.

It is further initially noted Claim 6 has been amended herein to recite in part:

“wherein a particle diameter of the electrically conductive particles is smaller than a thickness of the first adhesive layer, the conductive particles are aligned at the interface within the anisotropic conductive adhesive agent, the first adhesive layer adapted for application to the first terminals, and the second adhesive layer adapted for application to the second terminals, the first adhesive layer and the second adhesive layer formed from an insulating adhesive agent”.

Support for this amendment is found in paragraphs [0080] and [0081] of the specification.

It is still further initially noted Claim 7 has been amended herein to recite in part:

“a first adhesive layer created from an insulating adhesive agent;
a second adhesive layer created from the insulating adhesive agent, the second adhesive layer laminated onto the first adhesive layer”.

Support for this amendment is found in paragraphs [0080] and [0081] of the specification.

Claims 1, 6, and 7 therefore recite that the anisotropic adhesive agent contains an insulating adhesive agent as noted by the Examiner. Claims 1, 6, and 7 should therefore be in condition for allowance. The Examiner is respectfully requested to

withdraw the 35 U.S.C. § 112, first paragraph rejection of Claims 1, 6 and 7. Because Claims 4 and 5 depend from amended Claim 1, Claims 4 and 5 should also be in condition for allowance. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 112, first paragraph rejection of Claims 4 and 5.

Claims 1, 3 through 5, and 7 through 11

Claims 1, 3 through 5, and 7 through 11 stand rejected under 35 U.S.C. §112, first paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

It is initially noted Claims 3 and 8 through 11 have been herein canceled, rendering the 35 U.S.C. §112, first paragraph rejection of Claims 3 and 8 through 11 moot.

The Examiner stated ““Independent claim 1 has been amended to recite that the second adhesive layer is “devoid of the electrically conductive particles”. Independent claims 7-10 have been amended to recite that a plurality of electrically conductive particles are “included only within the first adhesive layer”. However there is no support for such negative limitations in the original disclosure.””

Claim 1 has been amended herein to recite “a plurality of electrically conductive particles included only within the first adhesive layer” which is consistent with the same limitation of Claim 7.

Applicant notes that Figure 8A provides support for the limitations of Claims 1 and 7 of a plurality of electrically conductive particles included only within the first

adhesive layer. Figure 8A discloses a first layer of insulating adhesive agent 2 containing the electrically conductive particles 3 (the lower layer 2 as viewed in Figure 8A) and a second layer 2 which does not contain any electrically conductive particles 3 (the upper layer 2 of Figure 8A). Because Figure 8A as-filed defines part of the original disclosure, Figure 8A provides original disclosure support for presently amended Claim 1 and for Claim 7. Claims 1 and 7 should therefore be in condition for allowance. The Examiner is therefore respectfully requested to withdraw the 35 U.S.C. § 112, first paragraph rejection of Claims 1 and 7. Because Claims 4 and 5 depend from amended Claim 1, Claims 4 and 5 should also be in condition for allowance. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 112, first paragraph rejection of Claims 4 and 5.

REJECTION UNDER 35 U.S.C. § 112 SECOND PARAGRAPH

Claim 6 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

Claim 6 has been amended herein to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner is requested to withdraw the 35 U.S.C. §112, second paragraph rejection of Claim 6.

REJECTION UNDER 35 U.S.C. § 102

Claims 9 through 11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yamazaki (U.S. Pat. No. 4,696,764). This rejection is respectfully traversed.

As noted above, Claims 9 through 11 have been herein canceled, rendering the 35 U.S.C. § 102(b) rejection of Claims 9 through 11 moot.

REJECTION UNDER 35 U.S.C. § 103

Claims 1 and 3 through 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tajima (U.S. Pat. No. 4,425,382). This rejection is respectfully traversed.

As noted above, Claims 3 and 8 have been herein canceled, rendering the 35 U.S.C. § 103(a) rejection of Claims 3 and 8 moot.

Tajima appears to teach a conductive support 1 such as a tube or a plate (see column 3, lines 55-59) having a dielectric powder 2 sprayed onto the peripheral surface of support 1 (see column 3, line 68 to column 4, line 1). A dielectric layer 2a is then created by heating the dielectric powder (see column 4, lines 5-6) which is then ground to a smooth surface (see column 4, lines 10-12). An insulating adhesive material is then sprayed onto dielectric layer 2a to create a first adhesive layer 5 (see column 4, lines 19-23). A layer 6 of conductive particles 6a are then deposited on the first adhesive layer 5 (see column 4, lines 28-32). A second layer 9 of insulating adhesive material is then sprayed over particles 6a and first adhesive layer 5 (see column 5, lines 14-17). After second layer 9 hardens, "the resulting structure is ground to make its outer surface

smooth and at the same time have at least some of the embedded conductive particles 6a exposed at the ground surface.” See column 5, lines 27-31.

Within the Tajima layers, at least some of the particles 6a extend outwardly from first adhesive layer 5 (see figure 2c) and are therefore also contained within second layer 9 when second layer 9 is applied (see figure 2d). Even when particles 6a are pressed toward first layer 5 as described in reference to column 5, line 64 to column 6, line 5, particles 6a are still “uniformly distributed across the peripheral surface” (see column 6, lines 6-7) and the particles “exposed at the surface” are then coated by second layer 9 (see column 6, lines 14-18), which requires some portion of the particles be located within second layer 9 in addition to first layer 5.

Tajima therefore does not teach or suggest a plurality of electrically conductive particles included only within the first adhesive layer as recited in Claims 1 and 7. Because at least a portion of particles 6a are exposed from the first adhesive layer 5, Tajima does not teach or suggest a particle diameter of the electrically conductive particles is smaller than a thickness of the first adhesive layer as recited in Claim 6.

Further, and as noted above, Tajima teaches that at least some portion of the conductive particles 6a are exposed when the manufacturing process including final grinding is complete. This requires that some portion of an outer surface of the Tajima support 1 has exposed conductive particles. This is antithetical to Applicants’ connecting structure of Figures 8A and 8B. Tajima positions all the conductive particles away from a position which can accommodate opposed terminals having differing heights and therefore does not address the problem solved by Applicants. Tajima teaches particle placement that can produce the same or an even less desirable

electrical contact than produced in the devices of prior art figures 11A and 11B, which Applicants' anisotropic conductive adhesive agent corrects. In direct contrast to Applicant, Tajima does not teach or suggest and because of its construction method does not appear to permit support 1 being adapted to electrically connect first and second terminals, and therefore does not teach or suggest that the first adhesive layer is adapted for application to the first terminals, and the second adhesive layer is adapted for application to the second terminals as recited in each of Claims 1, 6, and 7.


The suggested modification of Tajima therefore cannot render any of Claims 1, 6, or 7 obvious. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claims 1, 6, and 7. Because Claims 4 and 5 depend from Claim 1, Tajima cannot render either of Claims 4 or 5 obvious for at least the same reasons. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claims 4 and 5.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: July 21, 2006

By: 
G. Gregory Schivley
Reg. No. 27,382
Bryant E. Wade
Reg. No. 40,344

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

GGs/mmk